***COMPLETE IN NOTEBOOK! COPY ALL FIGURES!***

CW44/HW44: Area in the Coordinate Plane pt II

**Geometry  
Due: Thursday, December 8th   
Due**

**READ ALL DIRECTIONS! Failure to show** ALL WORK **and follow** all directions COMPLETELY **will result in LaSalle.**

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| You will be able to find the area of a shape in the coordinate plane. | | | |
| 1. Find the area of triangle ABC below.  **../../../../../Desktop/Screen%20Shot%202016-05-01%20at%201.28.57%20PM** | | 1. Find the area of the trapezoid shown below.  **../../../../../Desktop/Screen%20Shot%202016-05-01%20at%201.30.34%20PM** | |
| 1. ../../../../../Desktop/Screen%20Shot%202016-05-01%20at%201.39.06%20PM **Part I** 2. What do you know about the side lengths of a square? 3. How should you find the length of a segment when it is diagonal? 4. Find the area of the square ABCD.  **Part II** a) Given the same square in number 3, square ABCD, write the linear equation of the line that goes through points AB (in slope intercept form, y=mx+b)  b) Write the linear equation of the line that goes through points CD. What is similar about the equation? What is different? | | | |
| You will be able to graph linear equations in order to create a shape in the coordinate plane. | | | |
| 1. Graph the following three lines on the grid provided.   The three lines create a triangle. List the coordinates of the triangle and Find the area of the triangle ABC. | | | |
| Directions: For the following problems, create graphs in your notebook. For each problem: a) Graph the lines b) Label the coordinates of each vertex c) Find the area of the shape. | | | |
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|  | 1. The lines in number 8 create a square.   Based on your graph, exactly how many linear equations are required to create a square in the coordinate plane?  How many linear equations are required to create a triangle?  How does this related to the number of sides in each shape? | | 1. Prove that the shape you created in problem 8 is a square by either proving all interior angles are 90° or proving that all sides are of equal length. |

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| You will be able to write the bounds of a shape in the coordinate plane as a system of linear equations. | | |
| Directions: Graph the given coordinates for the vertices of the triangles below. Then write a linear equation for each side of the triangle (3 different linear equations!) | | |
| 1. A = (2,4) B = (-1,2) C = (2,0) | 1. A = (3,5) B = (-1,4) C = (2,-2) | 1. A = (2,10) B = (-4,-4) C = (10,0) |